

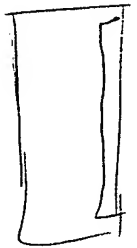
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What is claimed

1. A pressure transmitter having a housing (11) of micromechanical design;
5 - in which a cavity (16) is located for a fluid whose pressure is to be measured, and
- ~~on which there is fastened a diaphragm-type~~
pressure sensor (12) of micromechanical design,
wherein ~~constructed in the housing as a region of the~~
10 ~~housing (11) with thinned wall thickness is a~~
~~separating diaphragm (22) that is connected on one of~~
~~its sides to the diaphragm-type pressure sensor (12),~~
and on the other side of which the fluid with the pressure that is to be measured can be applied.
- 15 2. The pressure transmitter as claimed in claim 1, wherein the connection between the separating diaphragm (22) and the diaphragm-type pressure sensor (12) produces a bias in the connected diaphragms.
- 20 3. The pressure transmitter as claimed in claim 1, wherein the part of the housing (11) that has the separating diaphragm is formed from a base substrate (13).
- 25 4. The pressure transmitter as claimed in claim 3, wherein the base substrate (13) is designed in a multilayer fashion with a first layer (19) forming the separating diaphragm (22), an etching stop layer (20)
30 following thereupon, and a second layer (21) which follows thereupon and in which for the purpose of forming the separating diaphragm the cavity (16) is produced by etching as far as down to the etching stop layer (20).
- 35 5. The pressure transmitter as claimed in claim 1, wherein for the purpose of forming a sensor diaphragm (24) of the diaphragm-type pressure sensor in a sensor



substrate (25) an annular depression (26b) is constructed such that the part of the sensor substrate (25) located in the interior of the depression (26b) forms a reinforcing structure (30) for the sensor diaphragm that is connected to the separating diaphragm (22).

6. The pressure transmitter as claimed in claim 1, wherein a depression (26a) is constructed for the purpose of forming a sensor diaphragm (24) of the diaphragm-type sensor (12) in a sensor substrate (25), and the side of the sensor diaphragm (24) averted from the depression (26a) is connected to the separating diaphragm (22).

7. The pressure transmitter as claimed in claim 6, wherein electrical conducting structures provided on the part of the housing of micromechanical design are connected by contact bumps (27) to electrical conducting structures provided on the sensor substrate (25).

8. The pressure transmitter as claimed in claim 1, wherein the housing (11) is equipped with an inlet (17) and an outlet (18) for the fluid.

9. The pressure transmitter as claimed in claim 8, wherein the cavity (16) is constructed in such a way that it forms a channel structure which can be flowed through at least substantially in a laminar fashion from the inlet (17) to the outlet (18).

10. The pressure transmitter as claimed in claim 1, wherein a temperature sensor (29) is fitted on the side of the separating diaphragm (22) averted from the fluid.